

**IN THE UNITED STATES  
PATENT AND TRADEMARK OFFICE**

Appl. No. : 10/535,287  
Applicant(s) : Pieter Johannes Werkman et al.  
Filed : May 17, 2005  
TC/A.U. : 3700/3742  
Confirmation : 5980  
Examiner : Daniel Leon Robinson  
Atty. Docket : NL 021213  
Title:

**APPEAL BRIEF**

U.S. Patent and Trademark Office  
Customer Window, Mail Stop **Appeal Brief - Patents**  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314

Sir:

In response to the Final Office Action dated July 27, 2007, finally rejecting pending claims 1, 2 and 4-14, and in support of the Notice of Appeal filed on November 6, 2007, Applicants hereby respectfully submit this Appeal Brief.

**REAL PARTY IN INTEREST**

According to an assignment recorded at Reel 017367, Frame 0915, Koninklijke Philips Electronics, N.V., owns all of the rights in the above-identified U.S. patent application.

**RELATED APPEALS AND INTERFERENCES**

There are no other appeals or interferences related to this application or to any related application, nor will the disposition of this case affect, or be affected by, any other application directly or indirectly.

### **STATUS OF CLAIMS**

Claim 3 is canceled, and claims 1, 2 and 4-14 are pending.

Claims 1, 2 and 4-14 are rejected. Accordingly, the claims on Appeal are claims 1, 2 and 4-14.

### **STATUS OF AMENDMENTS**

There are no pending amendments with respect to this application.

### **SUMMARY OF CLAIMED SUBJECT MATTER**

The present invention is directed to a heating element having an electrically insulating layer and an electrically conductive layer.<sup>1</sup>

Accordingly, as broadly recited in claim 1, the heating element (FIG. 1 – element 1) includes an electrically insulating layer (FIG. 1 – element 3) and an electrically conductive layer (FIG. 1 – element 4). At least the electrically conductive layer is based on a hybrid sol-gel precursor comprising an organosilane compound (paragraphs [0007] – [0008]). An example of the hybrid sol-gel precursor includes a compound from the group of alkyl-alkoxysilanes (paragraph [0011]).

As broadly recited in claim 13, an electrical domestic appliance includes a heating element (FIG. 1 – element 1), which comprises an electrically insulating layer (FIG. 1 – element 3) and an electrically conductive layer (FIG. 1 – element 4). At least the electrically conductive layer of the heating element is based on a hybrid sol-gel precursor comprising an organosilane compound (paragraphs [0007] – [0008]). Examples of the electrical domestic appliance include an iron, a hair dryer, a hair styler, a steamer, a steam cleaner, a garment cleaner, a heated ironing board, a facial steamer, a kettle, a pressurized boiler for system irons

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<sup>1</sup> In the description to follow, citations to various reference numerals, figures, and corresponding text in the specification are provided solely to comply with Patent Office rules. It should be understood that these reference numerals, figures, and text are exemplary in nature, and not in any way limiting of the true scope of the claims. It would therefore be improper to import anything into any of the claims simply on the basis of **illustrative** language that is provided here only under the obligation to satisfy Patent Office rules for maintaining an Appeal.

and cleaners, a coffee maker, a deep fat fryer, a rice cooker, a sterilizer, a hot plate, a hot-pot, grill, a space heater, a waffle iron, a toaster, an oven, or a water heater (paragraph [0019]).

### **GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

The ground of rejection to be reviewed on Appeal is the rejection of claims 1, 2 and 4-14 under 35 U.S.C. § 102(b) as being anticipated by DECAMP et al. (U.S. Patent No. 4,920,254).

### **ARGUMENTS**

#### **Claims 1, 2 and 4-14 Are All Patentable Over DECAMP et al.**

##### **Claim 1**

Among other things, independent claim 1 recites a heating element that includes “an electrically insulating layer and an electrically conductive layer, wherein at least the electrically conductive layer is based on a hybrid sol-gel precursor comprising an organosilane compound.”

Applicants respectfully submit that the final Office Action has not provided a proper rejection under 35 U.S.C. § 102 in that the Examiner has not identified or otherwise articulated any specific passage or element of DECAMP et al. that discloses each feature of claim 1. Moreover, DECAMP et al. does not disclose at least an electrically conductive layer based on a hybrid sol-gel precursor comprising an organosilane compound.

Initially, Applicants note that a proper rejection of a claim under 35 U.S.C. § 102 requires that a single prior art reference disclose each element of the claim. *See, e.g., W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303, 313 (Fed. Cir. 1983). Anticipation requires that each and every element of the claimed invention be disclosed in a single prior art reference. *See, e.g., In re Paulsen*, 30 F.3d 1475, 31 USPQ2d 1671 (Fed. Cir. 1994); *In re Spada*, 911 F.2d 705, 15 USPQ2d 1655 (Fed. Cir. 1990). For anticipation, there must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention. *See, e.g., Scripps Clinic & Res. Found. v. Genentech, Inc.*, 927 F.2d 1565, 18 USPQ2d 1001 (Fed. Cir. 1991).

**a. The Final Office Action does not Clearly Articulate the Rejection**

The final Office Action, mailed July 27, 2007, rejects all pending claims “as being clearly anticipated by DeCamp et al. (U.S. Pat. 4,920,254).” *See* Office Action, p. 2. The Office Action provides no further explanation supporting this position. Applicants respectfully submit that it is both improper and unreasonable to expect Applicants to meaningfully address the Examiner’s ground of rejection, based entirely on this single sentence.

More particularly, the rejection fails to comply with MPEP § 706, which states, in part:

The goal of examination is to clearly articulate any rejection early in the prosecution process so that the applicant has the opportunity to provide evidence of patentability and otherwise reply completely at the earliest opportunity (emphasis added).

The rejection likewise fails to comply with 37 CFR § 1.104(c)(2), which provides:

In rejecting claims for want of novelty or for obviousness, the examiner must cite the best references at his or her command. When a reference is complex or shows or describes inventions other than that claimed by the applicant, the particular part relied on must be designated as nearly as practicable. The pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified (emphasis added).

The final Office Action (as well as the preceding Office Action, mailed December 20, 2006) falls short of clearly articulating the rejection by failing to identify the portion(s) of DECAMP et al. disclose the various claim features. Further, DECAMP et al. is directed to an electrically conductive window (*i.e.*, for aircraft) and methods of manufacturing the same, and

includes 3 figures and over 12 columns of disclosure. DECAMP et al. is both complex and describes other inventions, and its pertinence to claim 1 is not apparent. Yet, the final Office Action fails to recite even one reference character or line of disclosure that allegedly discloses a single claim element. Applicants respectfully submit that this places Applicants in the prejudicial position of having to review the applied art and attempt to discern that which the Examiner believes clearly anticipates the rejected claims. This shifts the burden to the Applicants to provide evidence of patentability without the benefit of a clearly articulated rejection, which Applicants submit is improper.

Moreover, Applicants have paid the required fees and have complied with the requirements of filing of a utility application, and thus are entitled to full and complete examination of the present application, including specific recitation, if any, of features of the applied art that allegedly anticipate the claims under examination. Unless a rejection in compliance with the standards of law and the guidelines of the MPEP noted above can be provided, Applicants respectfully submit that they are entitled to a patent as a matter of law.

**b. DECAMP et al. does not Disclose Each and Every Element of Claim 1**

The above notwithstanding, Applicants respectfully submit that the applied art fails to disclose at least the noted features of claim 1.

With regard to claim 1, DECAMP et al. does not disclose an electrically conductive layer based on a hybrid sol-gel precursor. Because the final Office Action does not reveal what the Examiner considers to be the “electrically conductive layer” or the “hybrid sol-gel precursor,” Applicants are at an unfair disadvantage, as discussed above. However, it appears that the only conductive portion of the heated windshields described by DECAMP et al. are “conductive circuit elements 16,” described as electrically conductive metal (*see, e.g.*, col. 4, lines 46-54), which would not be “based on a hybrid sol-gel precursor comprising an organosilane compound.”

Further, Applicants have conducted key-word searches of the terms “sol,” “gel,” and “hybrid” in DECAMP et al., and have reviewed the patent in an attempt to determine whether these and other features are disclosed. However, none of these terms were located, either alone or in specific reference to an electrically conductive layer.

Therefore, Applicants respectfully submit that DECAMP et al. fails to disclose at least the noted features of claim 1. Accordingly, for at least these reasons, Applicants respectfully submit that the rejection of claim 1 is clearly defective and should be withdrawn.

**c. The Final Office Action Fails to Address Applicants' Arguments**

Applicants respectfully submit that the final Office Action fails to adequately respond to Applicants' arguments (filed May 8, 2007), addressing the same 35 USC § 102(b) rejection, initially asserted by the Examiner in the Office Action of December 20, 2006.

More particularly, in response to Applicants' argument that DECAMP et al. does not disclose a sol-gel precursor, the final Office Action still does not specifically identify any relevant parts of DECAMP et al., effectively acknowledging that DECAMP et al. simply does not disclose a sol-gel precursor. Instead, the final Office Action attempts to sidestep the issue by characterizing an electrically conductive layer based on a hybrid sol-gel precursor as a "negative limitation" and as a "method of forming a product." See Office Action, p.2.

With respect to the negative limitation, the Examiner asserts that "a precursor is a compound that participates in the transformation into another compound..." and that claiming an element based on a precursor "is claiming something no longer present." *Id.* Initially, Applicants respectfully submit that an electrically conductive layer based on a hybrid sol-gel precursor is not a negative limitation. Rather, claim 1 positively recites a characteristic of a claim element (an electrically conductive layer), *i.e.*, that it is based on a hybrid sol-gel precursor.

Further, even if an electrically conductive layer based on a hybrid sol-gel precursor were a negative limitation, which it is not, this is not a basis for rejecting a claim: "The current view of the courts is that there is nothing inherently ambiguous or uncertain about a negative limitation. So long as the boundaries of the patent protection sought are set forth definitely, albeit negatively, the claim complies with the requirements of 35 U.S.C. 112, second paragraph."<sup>2</sup> MPEP § 2173.05(i).

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<sup>2</sup> The final Office Action is confusing in that it objects to an alleged "negative limitation," which is an issue under 35 USC § 112, 2<sup>nd</sup> paragraph, in the context of a 35 USC 102(b) rejection. To the extent the Examiner is now attempting to assert a 35 USC § 112, 2<sup>nd</sup> paragraph rejection, Applicants note that

With respect to an electrically conductive layer based on a hybrid sol-gel precursor being a method of forming a product, the Examiner stated that it “is not germane to the issue of patentability.” See Office Action, p.2. Applicants respectfully submit that a layer based on a precursor does not claim a method, but rather describes identifiable attributes of the layer itself. Therefore, the Examiner inaccurately characterizes this claim element.

Further, even if an electrically conductive layer based on a hybrid sol-gel precursor were a method (or process) of making a claim element, which it is not, this would effectively render claim 1 a “product-by-process” claim, which is not a basis for rejection: “A product-by-process claim, which is a product claim that defines the claimed product in terms of the process by which it is made, is proper.” MPEP 2173.05(p) (citing *In re Luck*, 476 F.2d 650, 177 USPQ 523 (CCPA 1973); *In re Pilkington*, 411 F.2d 1345, 162 USPQ 145 (CCPA 1969); *In re Steppan*, 394 F.2d 1013, 156 USPQ 143 (CCPA 1967)). “A claim to a device, apparatus, manufacture, or composition of matter may contain a reference to the process in which it is intended to be used without being objectionable under 35 U.S.C. 112, second paragraph, so long as it is clear that the claim is directed to the product and not the process.”<sup>3</sup> *Id.*

Therefore, Applicants respectfully submit that the Examiner’s response to Applicants’ arguments does not adequately address the fact that DECAMP et al. fails to disclose at least the noted features of claim 1. Accordingly, for at least these reasons, Applicants respectfully submit that the rejection of claim 1 is clearly defective and should be withdrawn.

#### Claims 2 and 4-12

Claims 2 and 4-12 depend from claim 1 and are deemed patentable for at least the reasons set forth above with respect to claim 1. Applicants also respectfully submit that several of the features specifically recited in the dependant claims, are clearly missing from the cited reference.

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this would constitute a new ground of rejection, not necessitated by claim amendments, and thus the finality of the Office Action would be improper.

<sup>3</sup> Again, the final Office Action appears to be improperly raising 35 USC § 112, 2<sup>nd</sup> paragraph issues in support of a 35 USC § 102(h) rejection.

Accordingly, for at least these reasons, Applicants respectfully submit that the rejections of claims 2 and 4-14 are also defective and should be withdrawn.

Claim 13

Among other things, independent claim 13 recites an electrical domestic appliance having a heating element that includes “an electrically insulating layer; and an electrically conductive layer; wherein at least the electrically conductive layer is based on a hybrid sol-gel precursor comprising an organosilane compound.”

As discussed above with respect to claim 1, Applicants respectfully submit that the Examiner has not provided a proper rejection under 35 U.S.C. § 102 in that the Examiner has not identified or otherwise articulated any specific passage or element of DECAMP et al. that discloses each feature of claim 1. Moreover, DECAMP et al. does not disclose at least an electrically conductive layer based on a hybrid sol-gel precursor comprising an organosilane compound.

**a. The Final Office Action does not Clearly Articulate the Rejection**

The final Office Action, mailed July 27, 2007, rejects claim 13 “as being clearly anticipated by DeCamp et al. (U.S. Pat. 4,920,254).” *See* Office Action, p. 2. The Office Action provides no further explanation supporting this position. Applicants respectfully submit that the rejection is therefore improper, e.g., under MPEP § 706 and 37 CFR § 1.104(c)(2), as discussed above with respect to claim 1.

**b. DECAMP et al. does not Disclose Each and Every Element of Claim 13**

The above notwithstanding, Applicants respectfully submit that the applied art fails to disclose at least the noted features of claim 13, for at least the reasons set forth above with regard to claim 1.

Furthermore, Applicants respectfully submit that the applied art also fails to disclose the electrical domestic appliance. The DECAMP et al. reference discloses heated glass windows (*i.e.*, for aircraft). Heated glass windows do not teach or suggest a domestic appliance. Therefore, because the applied art fails to disclose at least one additional feature of

claim 13, a prima facie case of anticipation based thereon cannot be established.

Therefore, Applicants respectfully submit that DECAMP et al. fails to disclose at least this additional noted feature of claim 13. Accordingly, for at least this reason, as well as the reasons set forth with respect to claim 1, Applicants respectfully submit that the rejection of claim 13 is clearly defective and should be withdrawn.

#### Claim 14

Claim 14 depends from claim 13 and is deemed patentable for at least the reasons set forth above with respect to claim 13. Applicants also respectfully submit that all of the features specifically recited in the claim 14 are clearly missing from the cited reference. In particular, not one of the appliances recited in claim 14 (*i.e.*, an iron, a hair dryer, a hair styler, a steamer, a steam cleaner, a garment cleaner, a heated ironing board, a facial steamer, a kettle, a pressurized boiler for system irons and cleaners, a coffee maker, a deep fat fryer, a rice cooker, a sterilizer, a hot plate, a hot-pot, grill, a space heater, a waffle iron, a toaster, an oven, or a water heater) is disclosed in the applied art.

Accordingly, for at least these reasons, Applicants respectfully submit that the rejection of claim 14 is also defective and should be withdrawn.

#### CONCLUSION

For all of the foregoing reasons, Applicants submit that claims 1, 2 and 4-14 are all patentable over the cited prior art. Therefore, Applicants respectfully request that the rejections of claims 1, 2 and 4-14 be withdrawn, the claims be allowed, and the application be passed to issue.

Respectfully submitted,

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Date: 4 February 2008

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**CLAIMS APPENDIX**

1. (Original) A heating element comprising an electrically insulating layer and an electrically conductive layer, wherein at least the electrically conductive layer is based on a hybrid sol-gel precursor comprising an organosilane compound.
2. (Original) A heating element according to claim 1, characterized in that the hybrid sol-gel precursor comprises a compound from the group of alkyl-alkoxysilanes.
3. (Cancelled)
4. (Previously Presented) A heating element according to claim 1, wherein the electrically insulating layer comprises non-conductive particles.
5. (Previously Presented) A heating element according to claim 4, wherein the electrically insulating layer comprises anisotropic, non-conductive particles.
6. (Previously Presented) A heating element according to claim 1, wherein the electrically conductive layer comprises conductive and/or semi-conductive particles, as well as an amount of insulating particles in a quantity of 0-20 % by volume.
7. (Previously Presented) A heating element according to claim 6, wherein the electrically conductive layer comprises metal particles.
8. (Previously Presented) A heating element according to claim 7, wherein the electrically conductive layer comprises silver or silver alloy particles.
9. (Previously Presented) A heating element according to claim 6, wherein the electrically conductive layer comprises graphite or carbon-black particles.

10. (Previously Presented) A heating element according to claim 1, wherein the electrically conductive layer does not exceed 30 mm in thickness and preferably does not exceed 15 mm in thickness.

11. (Previously Presented) A heating element according to claim 1 further comprising an insulating layer having a thickness of 25-100 mm, preferably 35-80 mm.

12. (Previously Presented) A heating element according to claim 1, wherein the heating element is applied on an aluminum or aluminum alloy substrate.

13. (Previously Presented) An electrical domestic appliance, comprising:  
a heating element, which comprises:

an electrically insulating layer; and

an electrically conductive layer;

wherein at least the electrically conductive layer is based on a hybrid sol-gel precursor comprising an organosilane compound.

14. (Previously Presented) An electrical domestic appliance according to claim 13, wherein the electrical domestic appliance is one of: an iron, a hair dryer, a hair styler, a steamer, a steam cleaner, a garment cleaner, a heated ironing board, a facial steamer, a kettle, a pressurized boiler for system irons and cleaners, a coffee maker, a deep fat fryer, a rice cooker, a sterilizer, a hot plate, a hot-pot, grill, a space heater, a waffle iron, a toaster, an oven, or a water heater.

**EVIDENCE APPENDIX**

{None}

**RELATED PROCEEDINGS APPENDIX**

{None}